FD235HFA529 TO 720K EMULATION

Please note that this change in the configuration of your drive, **VOIDS the warranty!**

- This type of configuration is mostly used by computer systems that require a 720K disk drive and we provide this information as courtesy, since 720K disk drives have been discontinued for quite some time.

- To emulate the FD235HFA529 model as a 720K drive only, make a bridge in (solder across) jumper S14 in the printed circuit board assembly (PCBA).

- There is no need loosen the screws, nor open the drive. The PCBA board is not covered by the bottom shield, and you should be able to find S14 immediately. Refer to figure A below to identify jumper S14:
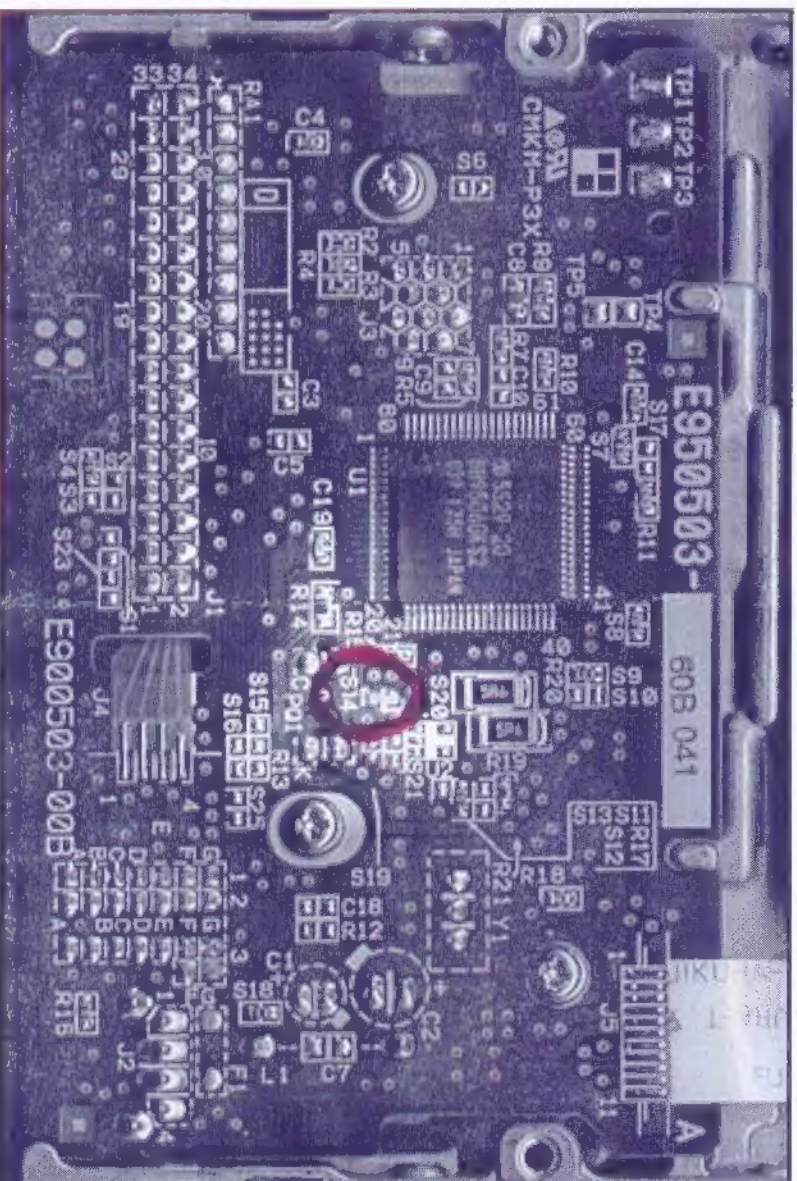

Figure A

- Remove the jumper for the automatic density (HA) in line G, refer to figure B below.

Handwritten annotations:

A5HD beige
A591 beige

WWW.baba.com
860606 $41 (refurbished)

color 240/540 beige light beige
429/59/107 black

Dell Micropolis
13H drives
www.solano.com

ISO components
www.iso-components.com
has A529 drives
in quantity

Buy $29.95
foith
Teac

To work with
data i.o unisite

Remove HA jumper
Install #IZ jumper

Remove DC34 jumper
Install RY34 jumper

Short S14 on
board
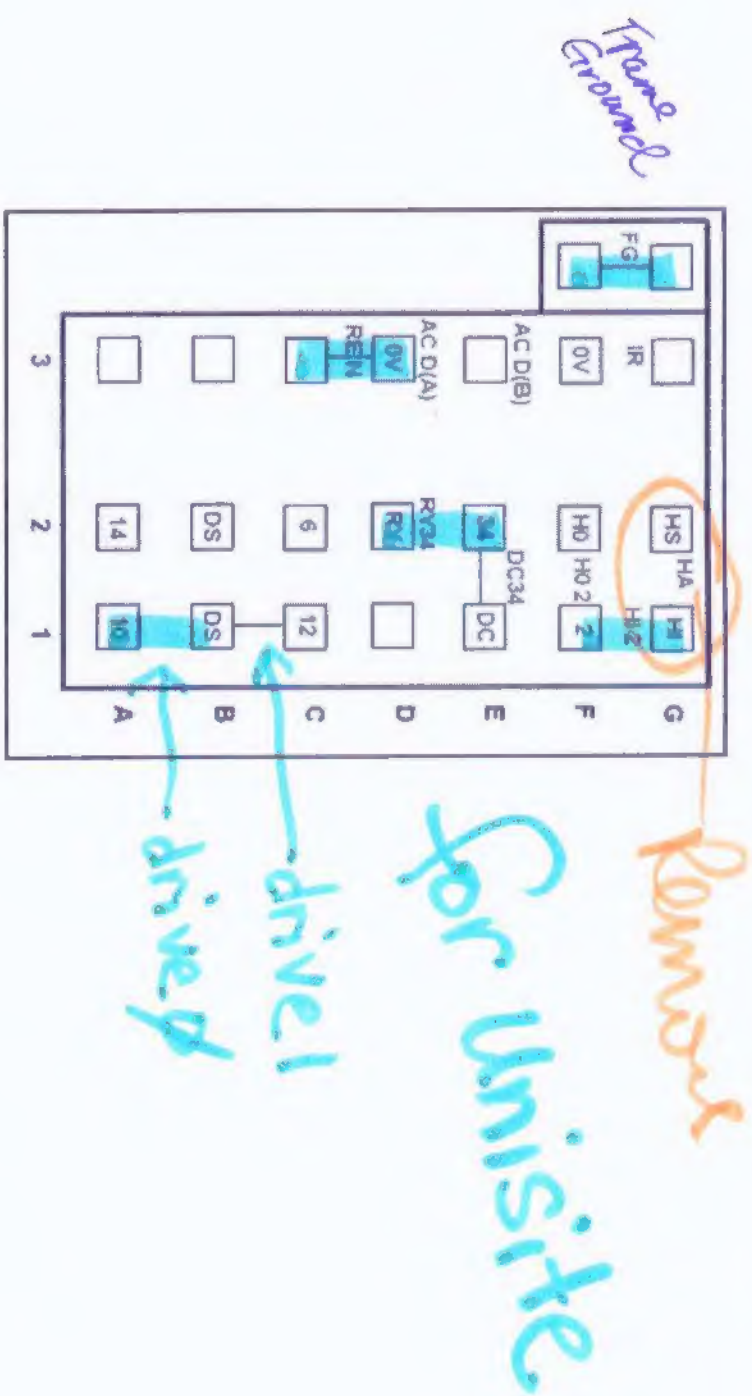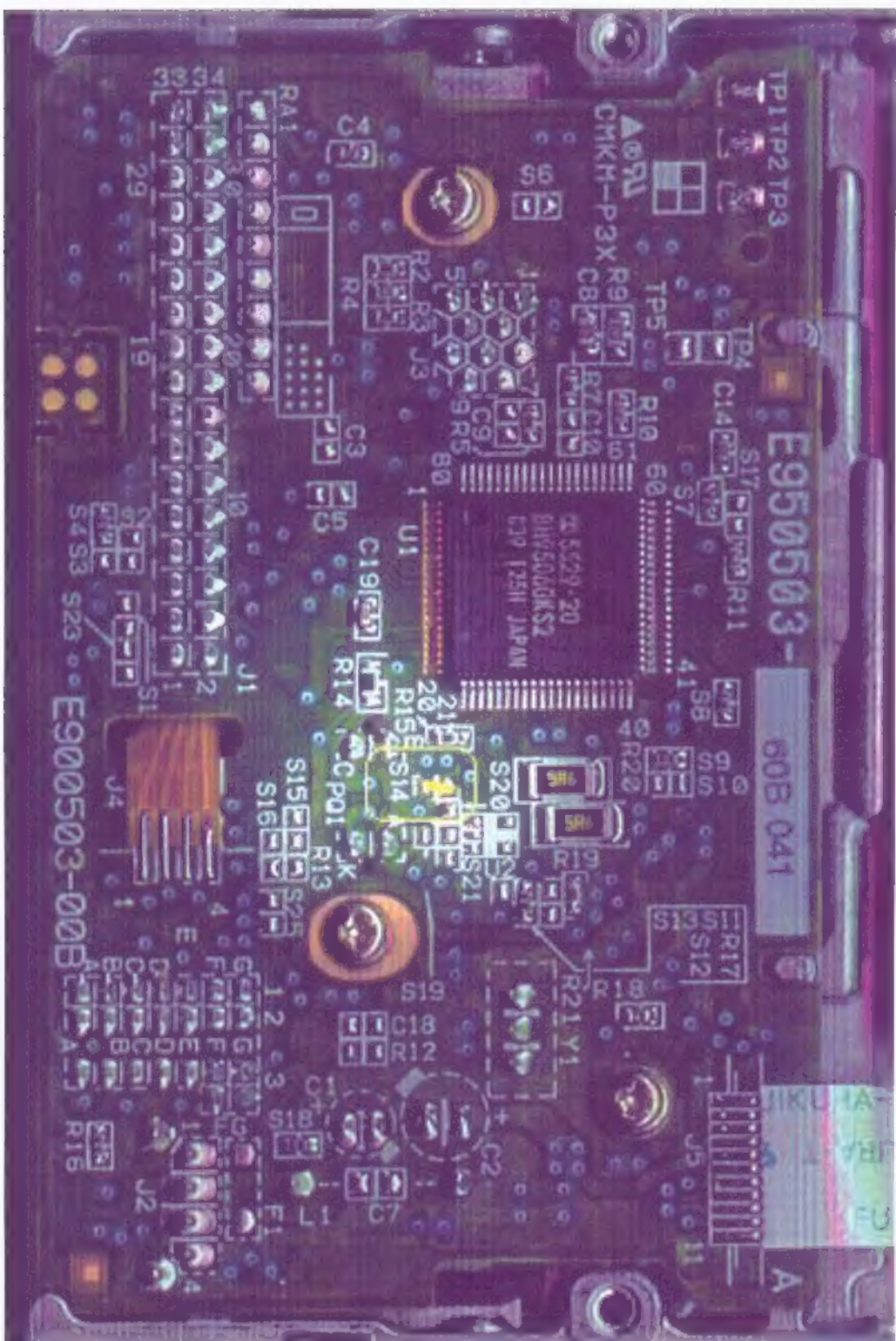
and

Set DS1 on DS0
jumper Drive A

(Fig. 3-1) FDD external view

- Then, you need to configure the CMOS in your computer for a 720K, 3.5" floppy disk drive. Refer to your user's guider for CMOS access information.

- For NON-PC purposes, you need to contact the manufacturer, and find out if this model would be suitable for your application.

Figure B

OUTLINE

This specification provides a description for the TEAC FD-235HF, dual density (2/1MB, 2-modes), 90mm (3.5-inch) micro floppy disk drive (hereinafter referred to as FDD). Table 1-1 shows the outline of the FDD, and Table 1-2 shows the signal interface pin-assignment.

(Table 1-1) Specification outline

Model name	FD-235HF-A529	FD-235HF-A540	FD-235HF-A591
Front bezel	Black	Beige (AT)	Beige (PS)
Eject button	Black	Beige (AT)	Beige (PS)
LED indicator	Green		
Safety standard	UL, CSA & TÜV		
Operation modes	2MB mode Write and read	1MB mode Write and read	
90mm (3.5-inch) disk used	High density (2HD)	Normal density (2DD)	
Unformatted data capacity	2M bytes	1M bytes	
Data transfer rate	500k bits/s	250k bits/s	
Disk rotational speed	300rpm	300rpm	
Track density	5.3track/mm (135tpi)		
Track to track time	3ms		
Required power	+5V single (4.5 ~ 5.5V)		
Signal output driver	CMOS, 3-state		
Input signal pull-up	1kΩ ±30%, unremovable		
Customer selectable strap	14 selections (DC0 ~ 3, RY34, DC34, DC2, HO2, HI2, HA, REN, ACD, IR, FG) Refer to item 11.1		

Function setting at delivery	1. Strap setting
	  1.1 DS1 : DRIVE SELECT 1 on pin 12
	  1.2 DC34 : DISK CHANGE on pin 34
	  1.3 HA : Automatic density setting for 2DD (1MB) disk or 2HD (2MB) disk.
	  1.4 REN : Auto-recalibration at power on.
	  1.5 FG : Frame is electrically shorted to DC 0V.
	2. Other interface setting
	  2.1 Pin2 : Open
	  2.2 Pin4 : Open
	3. Other function setting
	  3.1 LED turn on condition: DRIVE SELECT
	  3.2 Motor rotating condition: MOTOR ON
	  3.3 Ready and seek-complete gate (full-mask) for INDEX and READ DATA output pulses.
	  3.4 Auto-chucking at disk installation		

Interface connector	34 pin right-angled header connector		
Power connector	Equipped		
Other optional function	Not equipped		

CUSTOMER SELECTABLE STRAPS

Function Summary of Straps

The FDD is equipped with the following selectable straps on the main PCBA. Insertion of a short bar onto the post pin is defined as the on-state of the strap. Refer to Table 1-1 in item 1. as to the strap setting at delivery and selectable straps.

(Table 11.1-1) Function summary straps

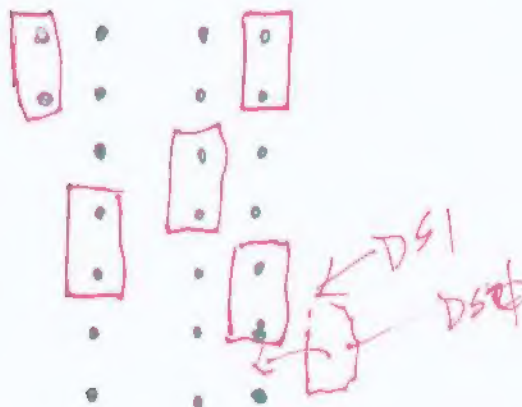| Strap	Function
DS0	DRIVE SELECT 0 input on pin 10
DS1	DRIVE SELECT 1 input on pin 12
DS2	DRIVE SELECT 2 input on pin 14
DS3	DRIVE SELECT 3 input on pin 6
*RY34	READY output on pin 34
*DC34	DISK CHANGE output on pin 34
*DC2	DISK CHANGE output on pin 2
*HA	Density set automatically
*HI2	Density set by HD IN on pin 2
*HO2	HD OUT output on pin 2
*IR	LED on: DRIVE SELECT * Ready
*ACD	Disable for auto-chucking
*REN	Enable for auto-recalibration
FG	Short between FDD frame and DC 0V

Strap post layout

Notes :   1. *straps overlap with other strap posts. Insert a short bar according to your priority.
2. You may select one of the two short bar positions, (A) and (B), for ACD strap.

DS0/DS1 and DS2/DS3 Straps

(1) In the multiplex control, these straps designate the address of the FDD.
(2) By the combination with the DRIVE SELECT 0 ~ 3 signals, four addresses, Max. can be designated. Refer to Fig. 8.2-1 and Table 11.1-1.

HA/HI2/HO2 Straps

(1) Straps to select a designating method of the density mode and to select a signal pin number.

(2) Table 11.3-1 shows the combination of the straps and selectable functions.

(3) Refer to Table 11.1-1 as to selection of signal pin number and overlapping with the other strap function.

(Table 11.3-1) Designating methods for density mode

Sel. No.	Strap setting			Input	Output	Density designation	
	HO2	HI2	HA	Pin 2	Pin 2	Host side	FDD
A	—	ON	—	HD IN	OPEN	Key-in or software	HD IN from host
B	—	—	ON	OPEN	OPEN	Key-in or software	Automatic by sensor
C	ON	—	ON	OPEN	HD OUT	HD OUT from FDD	Automatic by sensor

Notes : 1. "-" mark indicates the off-state of the strap.

2. Refer to Table 11.1-1 as to overlapping with the other strap functions.

3. Refer to item 8.3.14 as to the detailed signal functions.

RY34/DC34/DC2 Straps

(1) RY34 strap is used to output the READY signal on interface pin No.34.

(2) DC34/DC2 straps are used to output the DISK CHANGE signal on interface pin No.34, 2.

(3) Refer to Table 11.1-1 as to selection of signal pin number and overlapping with the other strap functions.

IR Strap

IR strap is used to select a turn-on condition of the front bezel indicator (LED). Refer to item 12.1 as to the detailed explanation.

ACD and REN Straps

(1) ACD strap is used to inhibit the auto-chucking at disk installation.

   (a) When the ACD strap is off-state, the auto-chucking operation is executed. The spindle motor automatically rotates for 490ms, approx. (500ms, Max.), and all of the interface signals are effective in accordance with the explanation in item 8.3 during the above auto-chucking operation.

   (b) When the ACD strap is on-state, the auto-chucking operation is inhibited.

(2) REN strap is used to execute the auto-recalibration (heads move to track 00) at power-on.

   (a) When the REN strap is off-state, the auto-recalibration is inhibited.

   (b) When the REN strap is on-state, the auto-recalibration is executed at power-on.

FG Strap

FG strap is used to electrically connect the FDD frame to DC 0V. Refer to item 10. as to the detailed explanation.

PHYSICAL SPECIFICATION

(Table 3-1) Physical specification

Width	101.6mm (4.00 in), Nom.
Height	25.4mm (1.00 in), Nom.
Depth	145mm (5.71 in), Nom., excluding front bezel
Weight	345g (0.76lbs), Nom., 360g (0.79 lbs), Max.
External view	See Fig. 3-1.
Cooling	Natural air cooling
Mounting	Mountings for the following directions are acceptable. (a) Front loading, mounted vertically. (b) Front loading, mounted horizontally with spindle motor down. (c) Mounting angle in items (a) and (b) should be less than 25° with front bezel up or down. Note: As to the other mounting directions than the above will be considered separately.
Installation	With installation holes on the frame of the FDD. Refer to Fig. 3-1.
Material of flame	Aluminium die-cast
Material of front bezel	PPHOX (Complying with UL94-5V)